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ABSTRACT

To determine the effect of books in Spanish and free reading time on reading abilities and attitudes of Hispanic students, 114 Hispanic children enrolled in grades 2 (Level I), 3 and 4 (Level II) in Tempe, Arizona, were placed in either experimental groups or control groups. Teachers in the experimental classes (E) were provided with books in Spanish selected for their attractive illustrations, simple texts, and potential interest to readers, and were instructed to provide at least 60 minutes a week of free reading time and to attempt to develop positive attitudes toward reading. Control group (C) teachers were instructed to teach reading as they normally did. Only the 49 E and 44 C subjects present for both pretests and posttests were retained in the analysis. The Level II experimental group excelled in all three Spanish reading tests (speed, comprehension, vocabulary). The Level I experimental group did not excel the control group in comprehension. The experimental groups had significantly better reading attitudes, but neither group showed significant change in academic self-concept. Results indicated that students who know Spanish and English and are successfully taught to read in either language will have little difficulty in reading successfully in the other language. (CM)

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The Effects of Books in Spanish and Free Reading Time on Hispanic Students' Reading Abilities and Attitudes*

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Background and Purpose

A wide assortment of bilingual reading programs for Hispanic students are being developed and implemented in the United States with varying degrees of success (Anderson and Boyer, 1970; Cohen, 1975; Engle, 1979; Manuel, 1965; Pialorsi, 1974). The purpose of this study is to determine whether providing a great variety of books in Spanish and sixty minutes a week of free reading time affects the reading abilities and attitudes of Hispanic students. It was hypothesized that a positive improvement in the students' Spanish and English reading abilities and in their reading attitudes and academic self-concepts would result after the students were exposed to books in Spanish which highlight the lifestyle, folklore, fiction, poetry, and history of Hispanic people.

Program Description

The five bilingual second-, third-, and fourth-grade teachers in the two experimental schools were provided with extensive collections of books in Spanish. These books were selected because of their attractive illus-

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trations, simple texts, and high potential for interesting or involving the readers. Teachers in the experiment (E) groups were told to provide at least sixty minutes a week of free reading time and to do everything they could to help their students develop positive attitudes towards reading. The duration of the treatment was eight months.

The seven teachers in the control (C) groups were instructed to teach reading the way they normally do. Most of the teachers in the C group reported that they emphasized reading instruction in English, even though as bilingual teachers,[1] they were supposed to teach reading in Spanish to those children who were Spanish dominant.

Five of the six E teachers were bilingual Hispanics with a median of four years of teaching experience. The other E teacher was a bilingual Anglo with one year teaching experience. Four of the eight C teachers were bilingual Hispanics with a median of two and-a-half years of teaching experience. None of the other four Anglo fourth-grade teachers was bilingual. They had a median of six and-a-half years of teaching experience.

The particular emphasis and style of each teacher were monitored and are briefly summarized in the Appendix.

Subjects

The subjects for this study were 114 Hispanic children 7 to 9 years of age enrolled in five second-grade classes, three third-grade classes, and four fourth-grade classes in four elementary schools in the Tempe Elementary School District in Tempe, Arizona. E School I is situated in a low-income

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[1]Teachers are designated as bilingual (Spanish-English) on the basis of an informal assessment by the bilingual district coordinator and the bilingual district screening committee and subsequent assignment to the bilingual program.

area; 41 percent of the children attending this school are Hispanic. E School II is situated in a middle-class area; 25 percent of the children attending this school are Hispanic. Most of the Hispanic children in the second school are bussed in from a low-income Hispanic area in the Tempe Elementary School District. C School III is situated in a lower middle-income area; 36 percent of the children attending this school are Hispanic. C School IV is situated in a low- middle-income to middle-income area; 34 percent of the children attending this school are Hispanic, 14 percent are Black, and 51 percent are Anglo. Approximately 17 percent of the children in school IV are bussed in from a low-income area.

Procedure

This study contrasts the Spanish and English reading abilities, reading attitudes and academic self-concepts of two groups of second-, third-, and fourth-grade Hispanic students: those students attending the experimental (E) schools and comparable students attending the control (C) schools.

The research design is summarized in Campbell-Stanley notation, where O denotes a measure, and subscripts RA, SC, S, E, A, and B denote Reading Attitude, Academic Self-Concept, Spanish test, English test, form A, and form B respectively.

$$\frac{O_{RA}O_{SC}O_{SA}O_{EB} \quad X \quad O_{RA}O_{SC}O_{SB}O_{EA}}{O_{RA}O_{SC}O_{SA}O_{EB} \qquad O_{RA}O_{SC}O_{SB}O_{EA}}$$

Comparable schools were identified based on the proportion of Hispanic students and socioeconomic levels of the students attending these schools. During the study the control classes had reading instruction based primarily on a textbook with little or no emphasis placed on recreational reading in

Spanish, and free reading time was very limited. Students were tested in Spanish and English reading by their teachers. However, to control for possible instrumentation artifacts from the teachers' involvement in test administration and other factors, the affective measures were administered by one of the authors.

Criterion Measures

The Tests of Reading: Inter-American Series (Herschel T. Manuel; Guidance Testing Associates, San Antonio, Texas) provide comparable measures of reading competency in Spanish and English. The English and Spanish versions differ only in the language employed -- they are literal translations, item-by-item. Level I (Spanish and English) was used with all second grade students and Level 2 (Spanish and English) was used with all third and fourth grade students.

The authors developed/adapted Spanish versions of measures of reading attitudes and academic self-concept. The tests were read to the students in both Spanish and English.

Students responded anonymously and were admonished to "please be completely honest" and told that "No one will know which paper is yours. We need to know exactly how kids feel." (In order to be able to match-up pre- and posttest and yet maintain anonymity each student wrote his mother's maiden name on the test.)

Illustrative reading attitude items are: "Do you like to read?" "Are most books interesting?" Do you like to read with your friends?"; illustrative academic self-concept items are: "Do you worry a lot?" "Do

you make new friends easily?" Examinees responded on a three-point scale: "Si," "?," and "No."

RESULTS

Only those students who were present for both the pretest and the posttest were retained in the analysis -- 49 subjects remained in the experimental (E) group and 44 in the control (C) group. The E and C pre- and posttest (corrected for chance) are given in Table 1. Both groups made substantial gains in most instances. An analysis of covariance was performed using an unbalanced hierarchical design (schools nested within treatments, teachers nested within schools, and pupils nested within teachers) to determine whether the gain was greater for the E or C group, after compensation for differences existing on the pretest (covariate). Non-directional hypotheses were employed on all tests except the Spanish cognitive measures. Bartlett-Box tests failed to detect any significant heterogeneity of variance among classes.

Spanish Reading Findings.

Spanish Level II (grades 3 and 4).

The principal results of the analyses are summarized in Table 2, which gives adjusted posttest means, effect sizes,[1] and the associated probability estimate. Although both E and C groups made large gains on all Spanish reading tests (See Table 1), the level II E group gained significantly more than the C group in Spanish reading comprehension ($p < .05$), Spanish reading vocabulary ($p < .01$), and Spanish reading speed

[1]Effect size (ES), expresses the difference between E and C posttest means in standard deviation units so that the magnitudes can be compared across tests.

Table 1. Pretest and Posttest Means for Experimental and Control Groups

		SPANISH READING TESTS					
		LEVEL I			LEVEL II		
		Pre	Post	Gain	Pre	Post	Gain
Reading Comprehension							
	E	5.67	16.14	+10.5	11.00	19.19	+8.2
	C	8.30	18.22	+ 9.9	2.81	9.26	+6.5
Reading Vocabulary							
	E	12.43	26.20	+13.8	19.38	25.00	+5.6
	C	18.77	25.54	+ 6.8	5.13	12.03	+6.9
Reading Speed							
	E				7.44	11.81	+4.4
	C				6.00	7.84	+1.8

		ENGLISH READING TESTS					
		LEVEL I			LEVEL II		
		Pre	Post	Gain	Pre	Post	Gain
Reading Comprehension							
	E	4.13	13.10	+9.0	14.83	22.17	+7.3
	C	3.81	13.69	+9.9	14.87	19.48	+4.6
Reading Vocabulary							
	E	9.08	18.17	+9.1	23.17	26.94	+3.8
	C	11.06	18.25	+7.2	19.10	26.00	+6.9
Reading Speed							
	E				8.50	12.44	+3.9
	C				10.68	12.43	+1.7

	READING ATTITUDE		
E	47.65	52.19	+4.5
C	47.09	49.74	+2.7

	ACADEMIC SELF-CONCEPT		
E	52.74	52.48	-.3
C	54.76	52.63	-2.1

Table 2. Adjusted Posttest Means and Effect Sizes[a] and Associated Probability Estimates (in parentheses)[b]

	Spanish	ES	English	ES
Reading Comprehension				
Level I				
E	17.03	.03θ	12.96	-.08θ
C	16.79	(.67)	13.86	(.10)
Level II				
E	15.21	.69θ	22.18	.51θ
C	11.32	(.04)*	19.48	(.14)
Reading Vocabulary				
Level I				
E	29.24	.63θ	18.83	.16θ
C	23.59	(.05)*	17.31	(.07)
Level II				
E	21.21	1.1θ	25.20	-.31θ
C	13.98	(.004)*	27.02	(.25)
Reading Speed				
Level II				
E	11.57	.99θ	13.09	.41θ
C	7.96	(.001)*	12.05	(.32)
Reading Attitude				
E	52.04	.39θ		
C	49.90	(.03)*		
Academic Self-Concept				
E	52.76	.07θ		
C	52.34	(.76)		

[a] $ES = (\bar{X}_{E_{adj}} - \bar{X}_{C_{adj}}) / \sqrt{MS_{within_{unadj.}}}$

[b] The apparent inconsistencies between ES and p-values result from differences in the n's and the correlations between the respective covariates and dependent variables (see tables 3-5).

*$p < .05$

($p < .001$) (when the E and C groups were statistically equated on the covariate). The treatment effects were large -- the effect sizes (ES) were .69 standard deviations (.69θ) for reading comprehension, .99θ for reading speed, and 1.1θ in reading vocabulary.

Spanish Level I (grade two).

The level I results are similar in Spanish reading vocabulary; both E and C groups made significant gains (see Table 1). The adjusted mean of the E group was .63θ ($p < .05$) higher than the adjusted mean of C. There was virtually no difference (.03θ) between adjusted E and C post-test means on the level I Spanish reading comprehension test.

Reading Attitude

Since the reading attitude measure and the academic self-concept measure were administered at all grade levels, only one analysis was required for each of these measures. The reading attitudes improved between the pre- and posttests for both E and C groups (see Table 1). The E group, however, improved significantly ($p < .05$) more (see Table 2). The treatment effect was .39θ. The pattern was generally consistent for E and C teachers and schools.

Academic Self-Concept

There was no significant difference between the adjusted posttest means for the E and C groups (ES = .07θ). Neither group showed any significant change between pre- and posttests.

English Reading Findings

No significant E-C differences ($p < .05$) resulted in levels I or II testing on any of the three English reading measures -- comprehension,

vocabulary, or speed. The observed differences on level II favored the E group on comprehension and speed, but they favored the C group in vocabulary. The observed differences were not, however, large enough to draw a reliable conclusion. At level I, the observed differences favored the C group in comprehension, and the E group in vocabulary, but neither difference allowed the null hypothesis to be rejected.

Discussion and Summary

Whereas at level II the E group significantly exceeded the C group in all three Spanish reading tests, at level I the E group did not perform significantly better than the C group in comprehension. There were no significant differences on any of the English reading measures.

The E group had significantly better reading attitudes, but there was no apparent treatment effect on academic self-concept.

The results described above were generally consistent across E and C teachers (and schools), that is, differences among E teachers (or among C teachers) were not statistically significant after compensation for any pretest difference was made. It should be noted, however, that there were few cases for some teachers, hence the statistical power for addressing these hypotheses was limited. The tenability of the hypothesis pertaining to the nested teacher and school effects enhances the potential generalizability of the findings.

The differences between level I and level II results may be related to the students' dominant language. The level I pupils tend to be Spanish dominant (see Table 1). The pretest and posttest means on the Spanish reading tests were higher than the corresponding mean scores on the English tests for both comprehension and vocabulary for both the E and C groups. At

level II, however, English dominance is evident (see Table 1) in each of the language comparisons (comprehension, vocabulary, and speed for both the E and C groups).

It is interesting to note that the majority of level I E students had never received, either prior to or during the study formal English reading instruction, yet large gains were made in the English reading scores between the pre- and posttests (see Table 1). Likewise the C group had substantial gains in their Spanish reading performance, although not as large as the E group gains. It is apparent that improvement in reading in English increases as a side-effect consequence of Spanish reading instruction. In other words, if one learns to read in one language, there appears to be much transfer of ability to read in a second language that is known to the student.

In level II, the E pupils received Spanish reading instruction exclusively until February, yet they improved in English reading as much as the C pupils who devoted much more time to formal English reading instruction.

In other words, it appears likely that if students know Spanish and English, and are successfully taught to read in either language, that they will have little difficulty in reading successfully in the other language. It appears that reading is a process -- easily transferable skill from Spanish to English and English to Spanish, provided one knows both languages.

It seems reasonable that the initial reading experience of Spanish dominant children should be in Spanish. Their reading skills can improve concurrently with their increased knowledge of English. If the students are able to read Spanish well, the transition to reading English will present no major difficulty if the English words are in their English

vocabulary.

The improved reading attitudes associated with the E groups is an additional benefit.

Appendix

Pretest-Posttest Correlations

The correlation matrices given in Tables 3-5 in the Appendix are included for incident interest. The pretest-posttest correlations can be viewed as very conservative estimates of the reliability of the various measures. Treatments effects are not sorted out of the r's, hence they are attenuated by this factor when there are treatment effects.

Table 3. Correlation Matrix for Level I[a] (n = 34)

		C_1		V_1		C_2		V_2	
		S	E	S	E	S	E	S	E
C_1	S			.83		.57		.47	
	E				.43		.51		.43
V_1	S					.54		.52	
	E						.64		.55
C_2	S							.78	
	E								.84
V_2	S								
	E								
Mdn		3.5	3.3	12.5	8.5	19.5	9.0	31.9	17.5
$\bar{X}$		6.7	4.0	14.9	9.9	16.9	13.0	27.1	18.2
s		8.5	5.1	12.5	8.2	10.9	12.7	10.1	12.5
$s_{\bar{x}}$		1.5	.82	2.1	1.30	1.7	2.01	1.7	1.98

[a]C, V, S, E, 1, and 2 represent comprehension, vocabulary, Spanish, English, pretest, and posttest respectively.

Table 4. Correlation Matrix for Level II[a] (n = 55)

		C_1		V_1		$Speed_1$		C_2		V_2		$Speed_2$	
		S	E	S	E	S	E	S	E	S	E	S	E
C_1	S			.77		.43		.74		.77		.66	
	E				.79		.53		.78		.69		.61
V_1	S					.31		.67		.73		.65	
	E						.43		.75		.76		.64
SPEED D_1	S							.39		.25		.28	
	E								.41		.36		.48
C_2	S									.76		.71	
	E										.71		.68
V_2	S											.68	
	E												.52
SPEED D_2	S												
	E												
Mdn		3.7	12.2	6.7	20.3	6.9	8.8	11.8	18.3	15.0	25.4	9.1	11.6
$\bar{X}$		4.6	13.5	8.6	19.3	6.4	9.3	12.2	19.2	15.1	25.4	8.8	12.5
s		7.6	9.8	10.5	10.7	2.9	4.8	8.6	8.8	10.3	8.8	4.4	5.0
$s_{\bar{x}}$		1.1	1.3	1.4	1.4	.4	.7	1.2	1.2	1.4	1.2	.6	.7
		C_1		V_1		$Speed_1$		C_2		V_2		$Speed_2$	

[a] C, V, S, E, 1, 2 represent comprehension, vocabulary, Spanish, English, pretest, and posttest respectively.

Table 5. Correlation Matrix for Reading Attitude and Academic Self-Concept Measures[a] (n = 92)

	RA_1	SC_1	RA_2	SC_2
RA_1		.14	.58	.20
SC_1			.11	.23
RA_2				.49
SC_2				
Mdn	47.2	53.6	52.5	52.1
$\bar{X}$	47.4	53.8	51.0	52.6
s	6.9	5.5	6.8	6.6
$s_{\bar{x}}$	.7	.6	.7	.7

[a]RA = Reading Attitude, SC = Academic Self-Concept;
Subscript 1 denotes pretest; Subscript 2 denotes posttest.

Teachers of Experimental Groups

Teacher I is a female Hispanic and has four years teaching experience. Her ten Hispanic students go for Spanish reading instruction to another teacher (Teacher V). In January (mid-year) she added a daily 15-minute period of free reading time in which the children were encouraged to "read for fun." The teacher added approximately fifty more books in Spanish and English to her classroom collection and displayed thirteen new books on the chalkboard every week. Teacher I reported that most of the Hispanic students in her class wanted to read books in Spanish. All of the children enjoyed sharing their stories with each other and reading out loud to the class.

Teacher II is a female Hispanic and has one and-a-half years teaching experience. She taught Spanish reading to nine Hispanic third grade students and to ten Hispanic fourth grade students. She used a textbook and supplementary textbook material for forty-five minutes four times a week. The students had free silent reading time for twenty minutes four times a week. The students read books in Spanish from the classroom collection of approximately one hundred books. In January the students requested more nonfiction books in Spanish for their free reading time. Most of the students were transferred to an English textbook in February but continued to read in Spanish during free reading time. All students read at least twenty-five books in Spanish and one boy read forty books. The teacher noted that good Spanish readers did well when transferred to English reading but poor Spanish readers had difficulty when transferred to English reading.

Teacher III is a female Hispanic and has nine years teaching experience. She taught Spanish reading to eleven Hispanic students for two hours a day.

In addition the students had free Spanish reading time sixty minutes a week. Most students wrote at least twenty-five book reports. Her classroom included a collection of one hundred and thirty books in Spanish and in January she added approximately one hundred and seventy books in English. Several Anglo children stated at the beginning of the school year that: "All the good books are in Spanish." And, "We will have to learn to read in Spanish." All the children wrote creative stories almost daily. The teacher noted that the children loved to read and that they saw books as "means of success.'

Teacher IV is a female Anglo and has one year teaching experience. She taught nine Hispanic students and in October she started using a Spanish textbook for Spanish reading instruction to five of the students. In November she switched to a textbook in English with the same students because she was very concerned that the children were "falling behind in English reading." In January she decided not to continue participating in this study.

Teacher V is a female Hispanic and has four years teaching experience. She taught Spanish reading to eight of the Hispanic students from her regular class and to eleven of the Hispanic students from Teacher I's regular class. She used a Spanish textbook for oral reading instruction for twenty minutes daily. The children had fifteen minutes every morning of free reading time and in addition they had approximately twenty minutes a week of "fun activities related to a book of their choice." The teacher made up several charts that displayed the number of books that each child had read. She also arranged her classroom collection of approximately one hundred books in Spanish by levels of difficulty in low boxes for easy access by the children. All of the children read at least twenty-five books in Spanish.

Teacher VI is a female Hispanic and has four years teaching experience. She taught reading in English at the beginning of the school year to all of the students in her class for thirty minutes daily. In January a Hispanic student teacher was assigned to work with her. The student teacher then began Spanish reading instruction with a Spanish textbook to the five Hispanic students in the class for thirty minutes daily. In addition the children had free silent reading time for ten minutes every day. The student teacher took approximately seven new books in Spanish every week to the classroom. The teachers read out loud to the class, one day in English and the next in Spanish. Several Anglo children asked: "When will we start reading in Spanish?"

Teachers of Control Groups

Teacher VII is a female Anglo with nine years teaching experience. She taught reading in English with a textbook in English for sixty-five minutes daily. Sometimes the students had silent reading. In the afternoon the students had supplemental practice reading activities. None of the five Hispanic students in her class had ever had reading instruction in Spanish. She has never seen any of the students read a books in Spanish.

Teacher VIII is a female Hispanic with two years teaching experience. The eight Hispanic students in her class were not ready to learn to read in Spanish from a textbook at the beginning of the school year. She taught the children to read individual sight words in Spanish for five to ten minutes every day. She concentrated on Spanish oral language development for thirty minutes daily. She had a classroom collection of approximately twenty-five stenciled books in Spanish. The children sometimes read one of these books on their own. In January three of the Hispanic students were transferred to English reading. Most of the children in her class check out books in English from the library.

Teacher IX is a female Hispanic with one year teaching experience at the elementary level. She started working with this class in January. She noticed that the sixteen Hispanic students in her class had a very limited Spanish vocabulary. She taught seventy minutes daily of reading in English and forty-five minutes of reading in Spanish to most of the students in the class. Since March she taught only English reading to the slower Hispanic students. She had individual reading practice activities in English for approximately ten minutes daily.

Teacher X is a female Anglo with six years teaching experience. She taught English reading for sixty-five minutes daily and had supplemental practice reading activities in the afternoon. Sometimes the students had silent reading in which they read books in English from the library or from the classroom collection. The two Hispanic students in her class have never been in a bilingual program. She had occasionally heard the Hispanic students speak in Spanish in the playground.

Teacher XI is a female Hispanic with three years teaching experience. She taught Spanish reading for thirty minutes a day to the twelve Hispanic students in her class. She noticed that the Hispanic children preferred to read books in English during silent and oral reading time, which the children had for approximately thirty minutes a week. She also noted that all of the children checked out books in English from the library; however, she encouraged the Hispanic students to check out books in Spanish. Anglo students were attracted to the Spanish games that were available in the classroom.

Teacher XII is a male Anglo with three years teaching experience. He taught English reading to the six Hispanic students in the class for one hour daily. In addition two of the students who needed help in English reading were assigned to a small oral reading group. He noted that the Hispanic students very seldom checked out books in Spanish from the library. He assumed that the Hispanic boys in his class do not feel confident about their reading abilities, and, therefore, they probably very seldom read.

Teacher XIII is a female Anglo with seven years teaching experience. The two Hispanic students in her class go to reading instruction with teacher XII.

Teacher XIV is a female Hispanic with five years teaching experience. She started teaching reading in Spanish to the six Hispanic students in her class for one month, but then she realized that they would be expected to read in English during the next school year. Therefore, she started teaching all of them to read in English for forty-five minutes daily. In addition the children listened to taped stories in English for approximately fifteen minutes a week. The teacher noted that all of the Hispanic students were very excited about switching to English reading and that most of them progressed very well.

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